AKAI SERVICE MANUAL

SEMI AUTOMATIC TURNTABLE

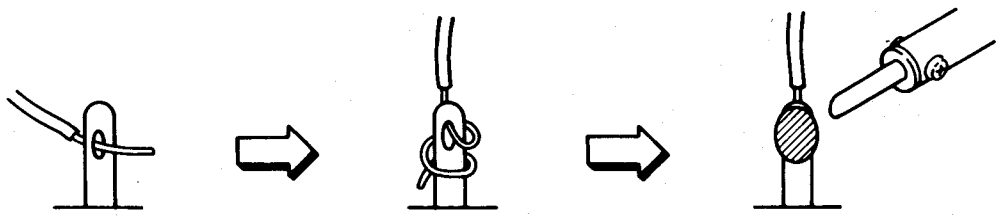
MODEL AP-A150/C
MODEL AP-A101/C

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified unsulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION (AP-A101/C Only.)

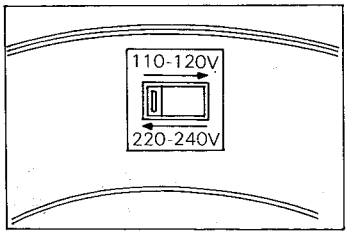
Each machine is preset at factory according to its destination, but some machines can be set to 110V-120V or 220V-240V as required.

If your machine's voltage can be converted:

Before connecting the power cord or assembling the platter turn the Voltage Selector located on the top of the cabinet with a screwdriver until the correct voltage is indicated.

Models for USA, Canada, Europe, UK and Sustralia are not equipped with this facility.

NOTE: Cycle conversion is unnecessary since AP-A101 use a DC motors.



I. SPECIFICATIONS

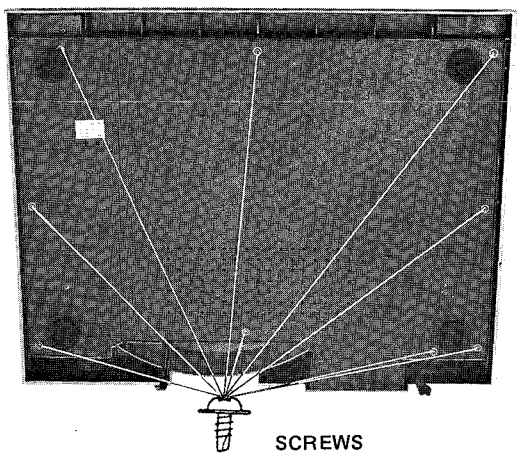
	AP-A101/C	AP-A150/C
MOTOR	DC E.G MOTOR	DC E.G MOTOR
SPEED	33-1/3 & 45 rpm	33-1/3 & 45 rpm
WOW & FLUTTER	0.15% (W RMS)	0.15% (W RMS)
RUMBLE	50dB (DIN-B)	50dB (DIN-B)
CARTRIDGE OUTPUT VOLTAGE CHANNEL SEPARATION CHANNEL BALANCE	Moving Magnet Type (T4P Type) 4mV 18dB Less than 3dB	Moving Magnet Type (T4P Type) 4mV 18dB Less than 3dB
EFFECTIVE ARM LENGTH	90mm	90mm
POWER REQUIREMENTS	120V, 60Hz for USA & Canada 220V, 50Hz for Europe 240V, 50Hz for UK & Australia 110V/120V-220V/240V, 50/60Hz Convertible for other countries	DC 13V
DIMENSIONS	440(W) x 99.5(H) x 345(D)mm 17.3(W) x 3.9(H) x 13.6(D) Inches	440(W) x 99.5(H) x 345(D)mm 17.3(W) x 3.9(H) x 13.6(D) Inches
WEIGHT	4Kg	3.8Kg

* For improvement purposes, specifications and design are subject to change without notice.

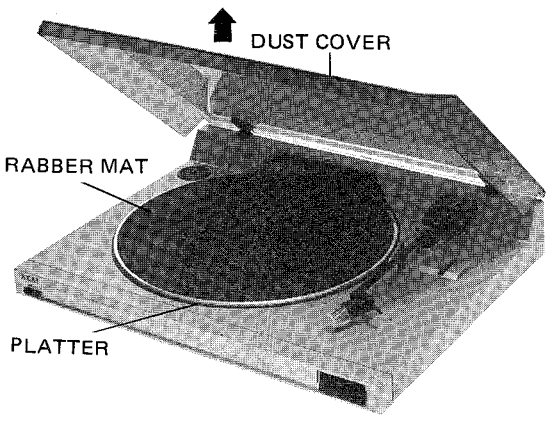
II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

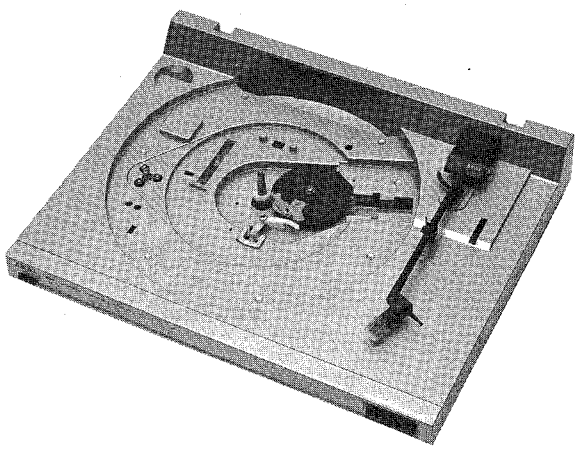
2



1



3



III. CONTROLS

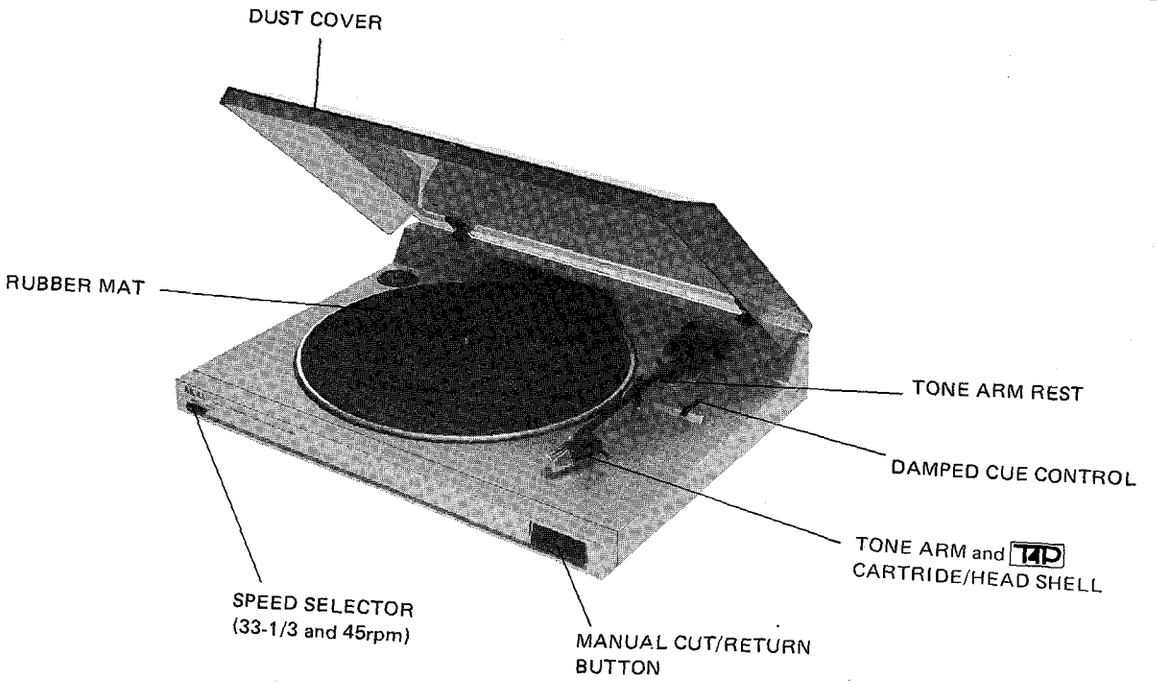


Fig. 3-1

IV. PRINCIPAL PARTS LOCATION

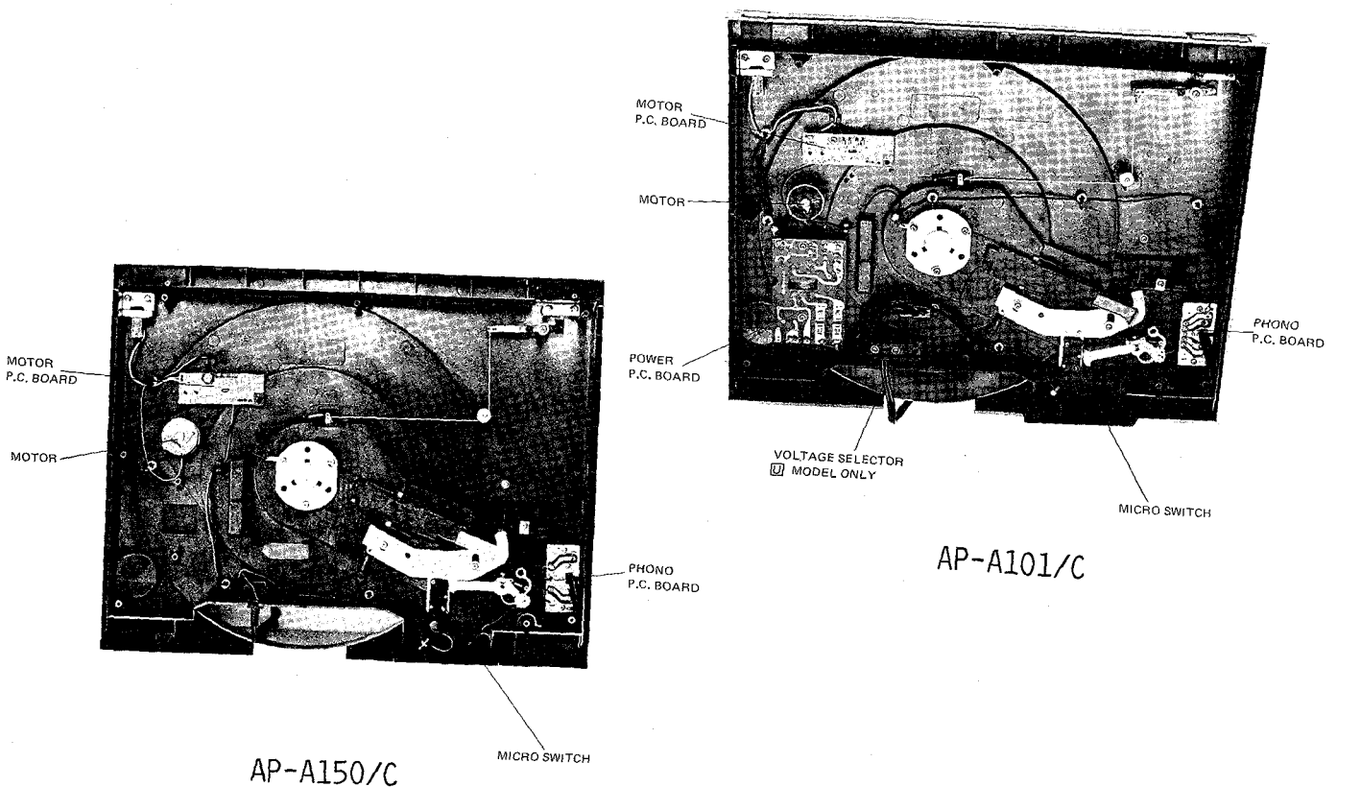


Fig. 4-1

V. ADJUSTMENT

1. PITCH CONTROL RANGE ADJUSTMENT

1) Set pitch Control knob to its mechanical center.
2) Select required speed.
3) Adjust semifix resistor (see Fig. 5-1) with small minus driver until strobodots look like stopped.
4) Repeat for second speed.

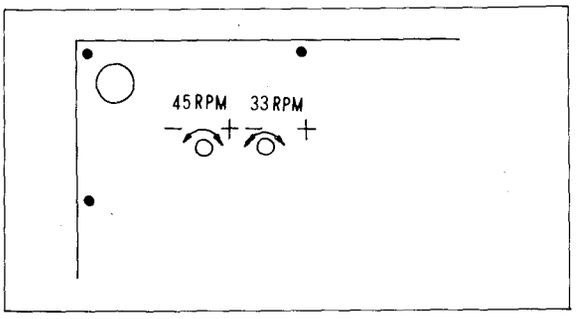


Fig.5-1

2. AUTO RETURN-RANGE ADJUSTMENT

1) If Tone Arm returns to early or does not return at all, open the bottom cover and adjust the autoreturn point as follows.
2) Lock Tone Arm to the Arm Rest and turn adj. Screw (Fig. 5-2).
   : Counterclockwise ⇒ Autoreturn Point will be later and earlier.

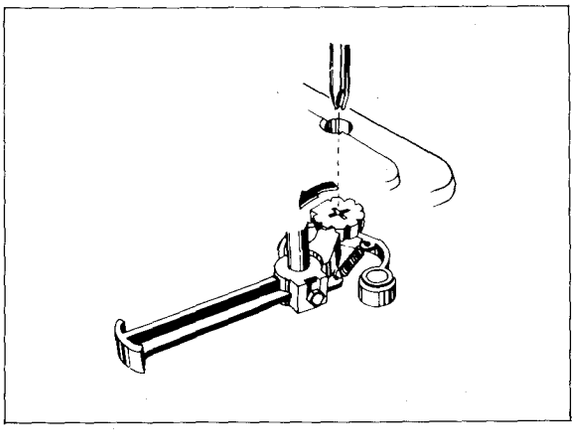


Fig. 5-2

3. PICK-UP HEIGHT ADJUSTMENT

All models include AUTOMATIC RETURN at the end of a record, actuated by levers and cams.
The distance between pickup stylus and top surface of a single record in the arm return mode is typically 5/32-15/32 inch (4-12mm).
Adjustment of this elevation is accomplished by means of cam screw (see Fig. 5-3).

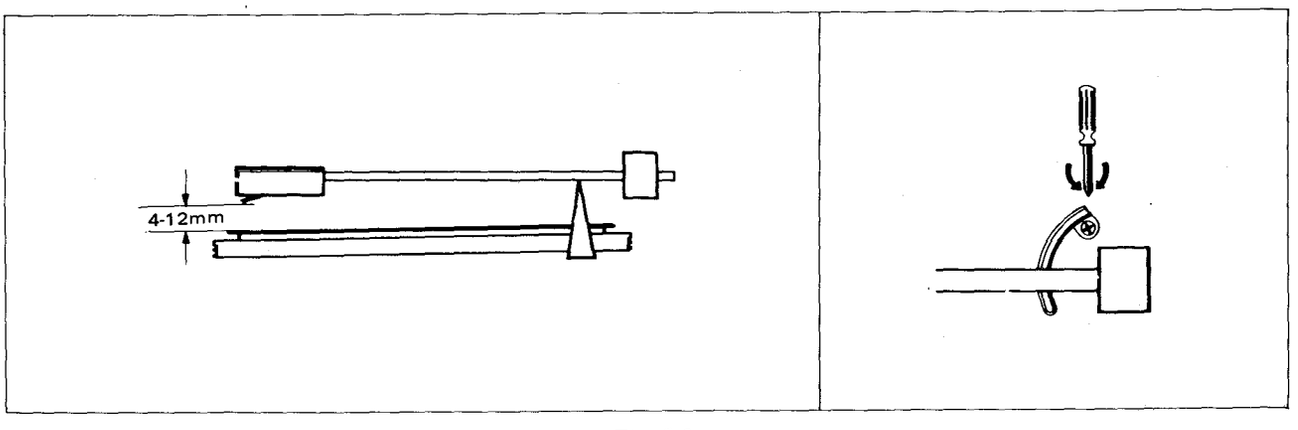
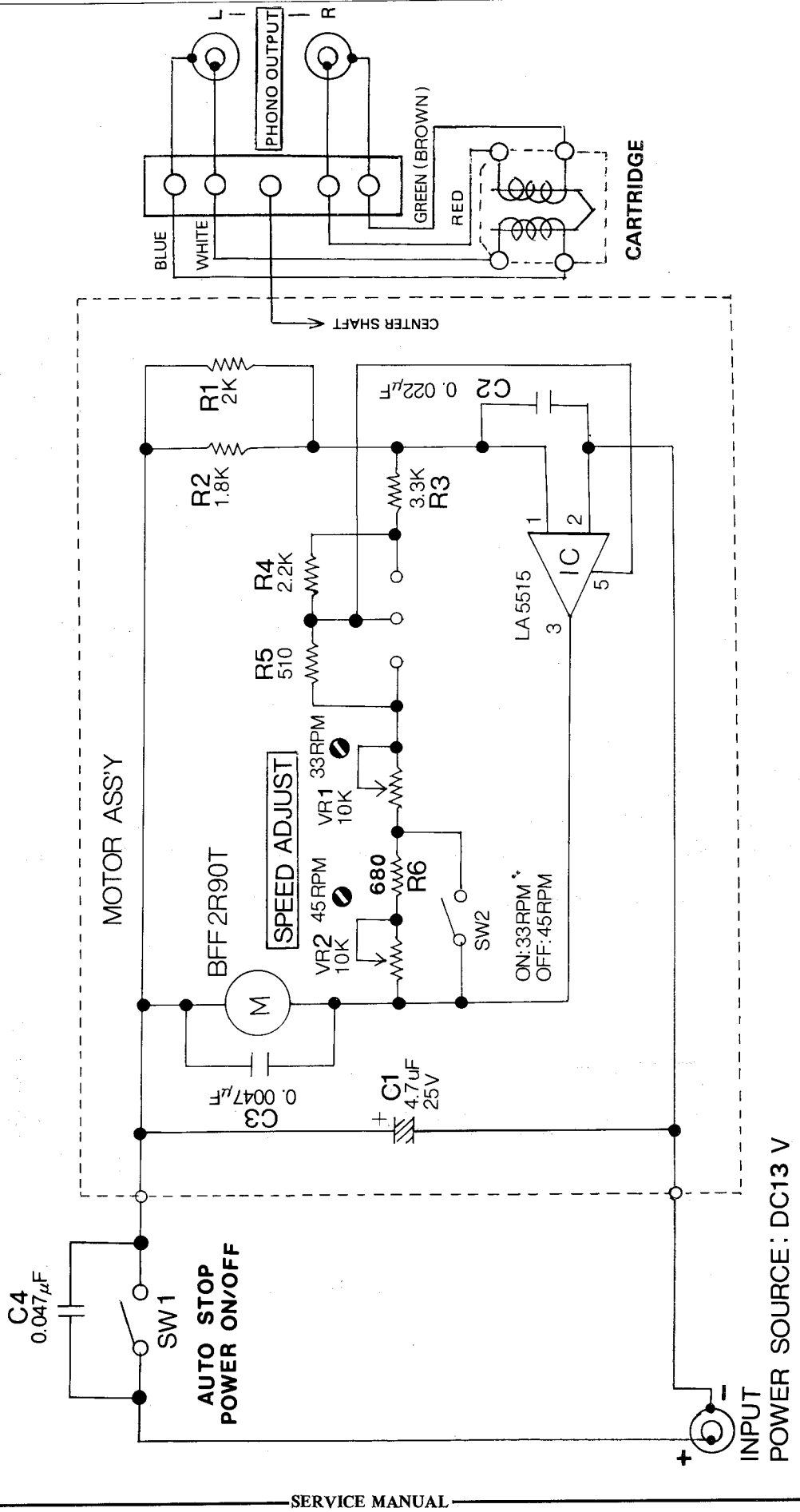
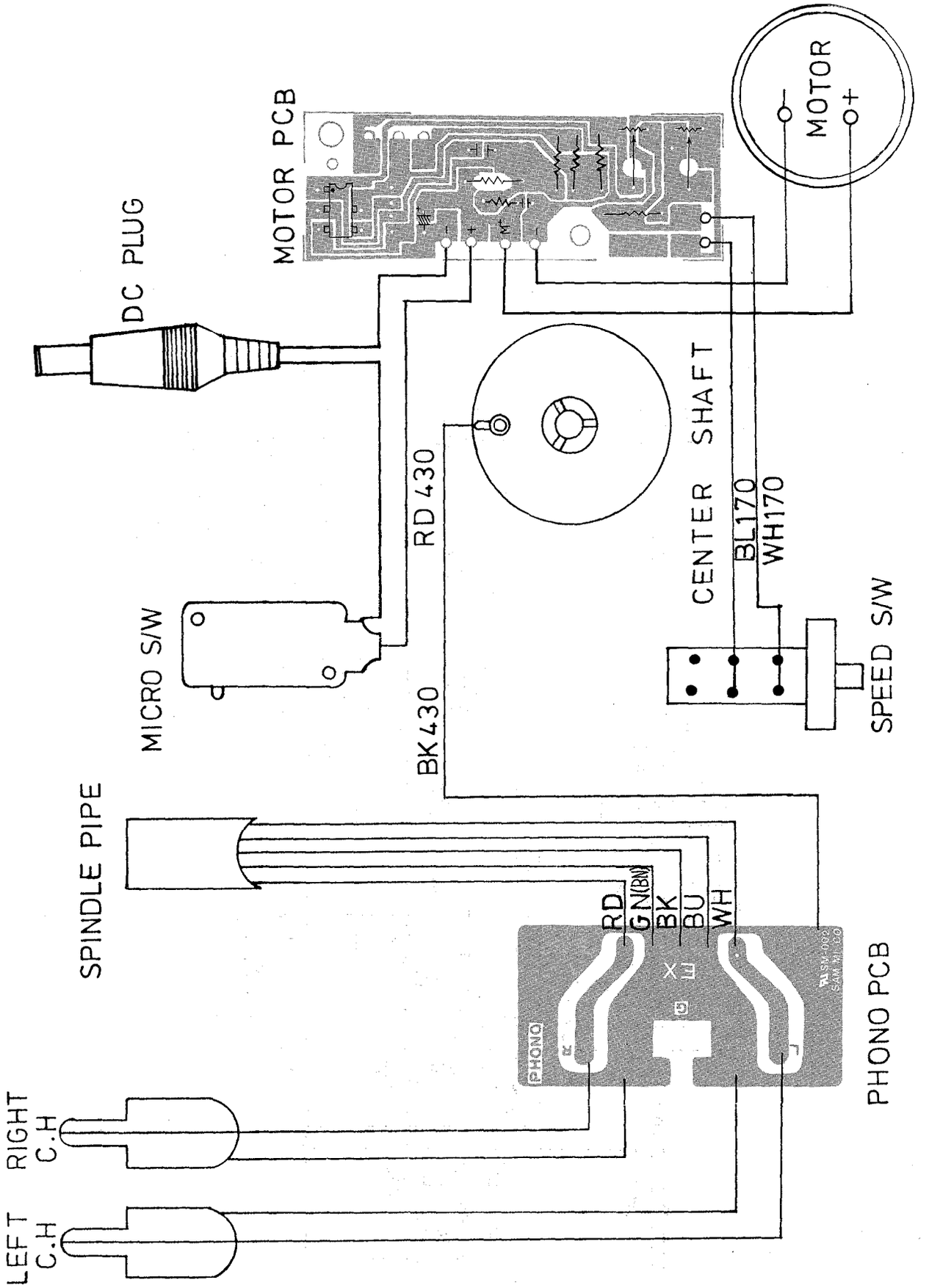
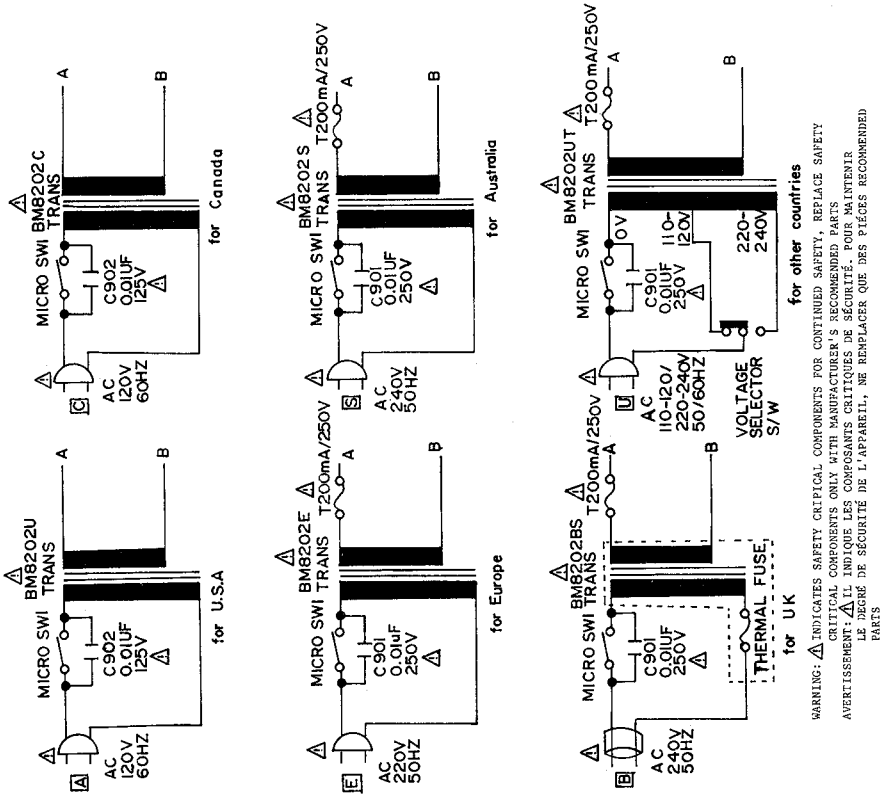


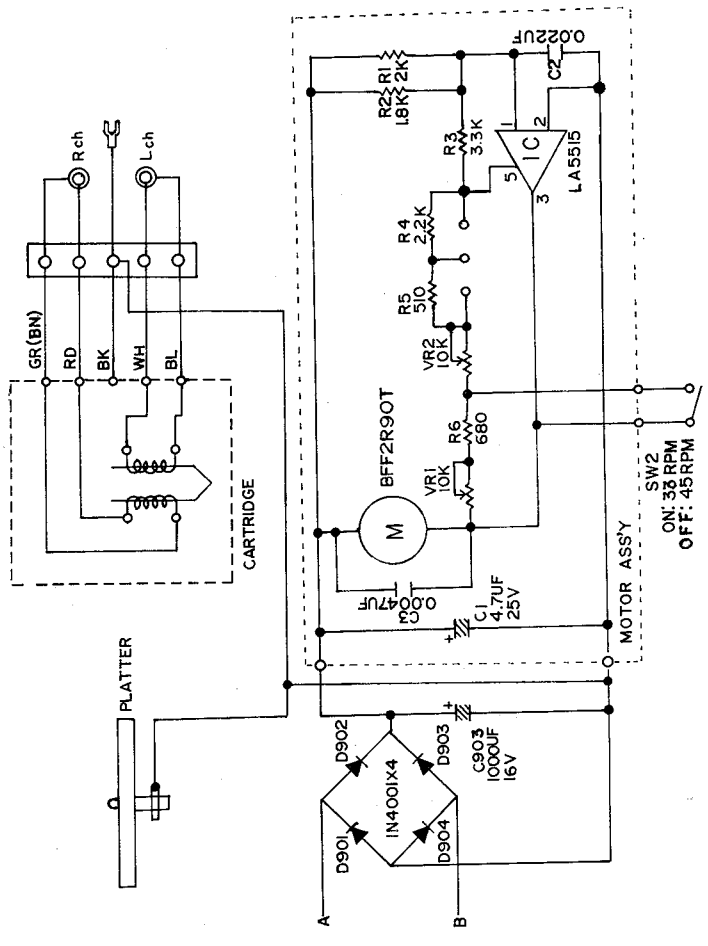
Fig. 5-3

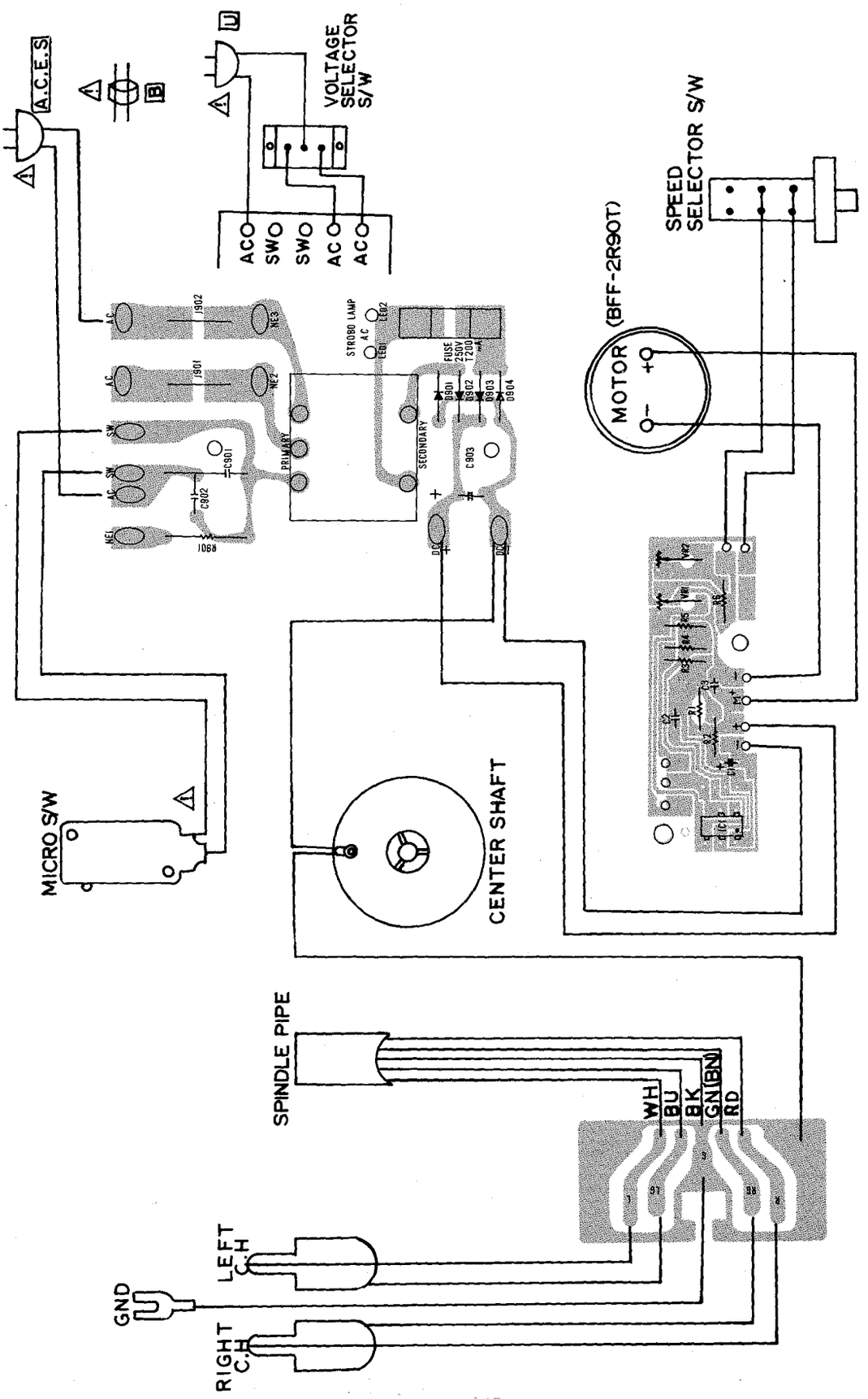

L
R
PHONO OUTPUT
GREEN (BROWN)
RED
BLUE
WHITE
CARTRIDGE
CENTER SHAFT
MOTOR ASS'Y
R1 2K
R2 1.8K
C2 0.022μF
3.3K R3
R4 2.2K
R5 510
IC
LA5515
1
2
3
5
SPEED ADJUST
VR1 33RPM 10K
VR2 45RPM 10K
680 R6
SW2
ON:33RPM
OFF:45RPM
BFF2R90T
M
C3 0.0047μF
C1 4.7uF 25V
C4 0.047μF
SW1
AUTO STOP
POWER ON/OFF
INPUT
POWER SOURCE: DC13 V


MOTOR
MOTOR PCB
DC PLUG
CENTER SHAFT
BL170
WH170
RD 430
BK 430
MICRO S/W
SPEED S/W
SPINDLE PIPE
RD
GN(BN)
BK
BU
WH
PHONO
PHONO PCB
RIGHT C.H
LEFT C.H

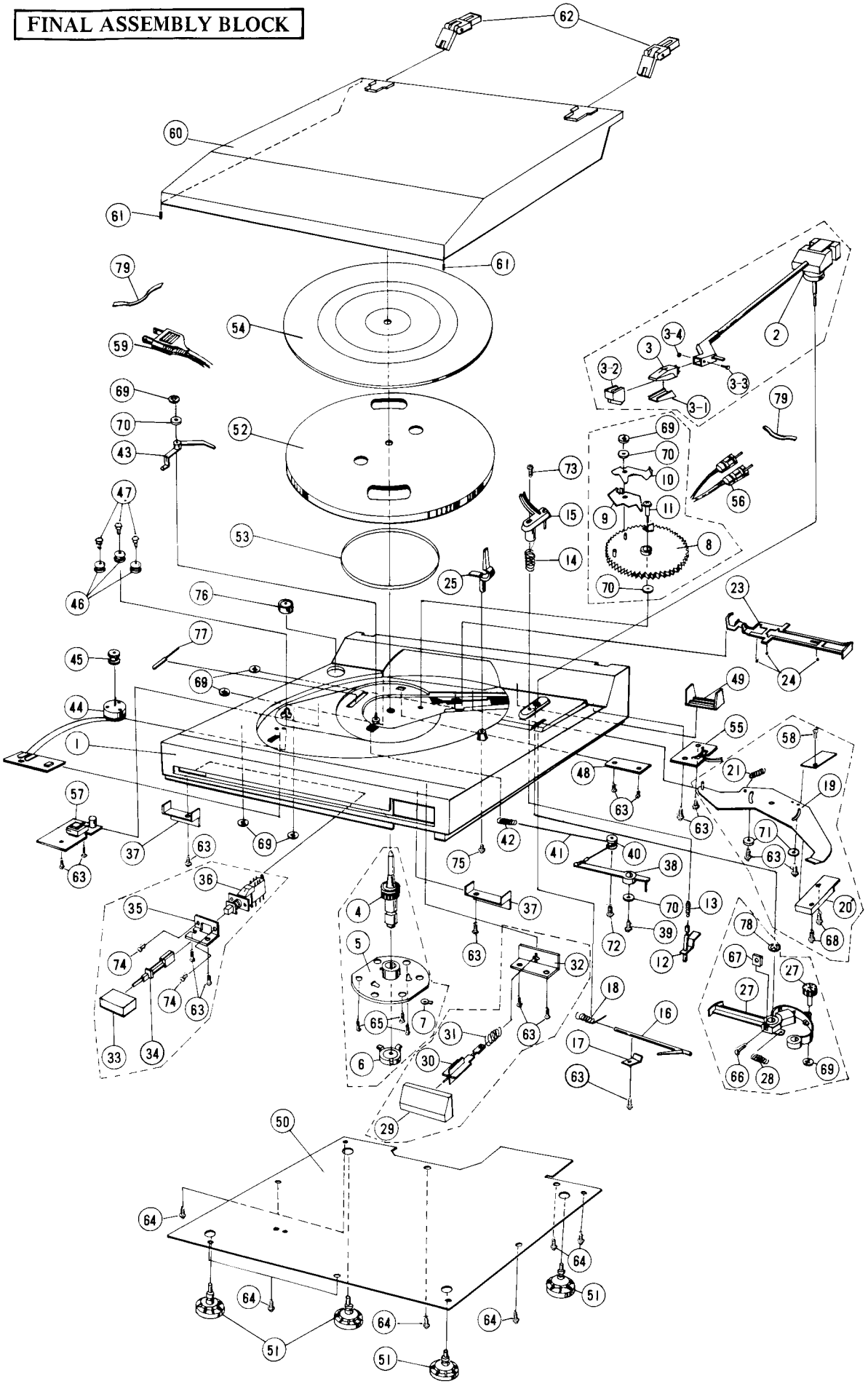
SCHEMATIC DIAGRAM AP-A101/C


for Canada
for U.S.A
for Australia
for Europe
for UK
for other countries
MICRO SWI
TRANS
C902 0.01UF 125V
C901 0.01UF 250V
AC 120V 60HZ
AC 240V 50HZ
AC 220V 50HZ
AC 110-120/ 220-240V 50/60HZ
VOLTAGE SELECTOR S/W
THERMAL FUSE
T200mA/250V
110-120V
220-240V
WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMENDED PARTS




A.C.E.S
VOLTAGE SELECTOR S/W
ACO
SWO
SWO
AC O
ACO
SPEED SELECTOR S/W
(BFF-2R9OT)
MOTOR
STROBO LAMP
FUSE 250V T200mA
D901
D902
D903
D904
PRIMARY
SECONDARY
C901
C902
C903
MICRO S/W
CENTER SHAFT
SPINDLE PIPE
WH
BU
BK
GN
BN
RD
GND
LEFT C.H
RIGHT C.H

FINAL ASSEMBLY BLOCK



AP-A150 PARTS LIST

REF. NO.	PART-NO.	DESCRIPTION		NOTES
1-2	TP-718550	TONE ARM ASSY AP-A150		
1-20	ES-718344	⚠ * SW MICRO AH-4700		
1-36	ES-718551	SPEED SW ASSY AP-A150		
1-44	BM-718340	⚠ * MOTOR BLK AP-M300	D0.1W	
1-53	MB-718346	BELT CR-WRT AP-M300		
1-56	EW-718553	CORD PHONO AP-A150		
1-59	EW-718349	CORD POWER DC AP-M300		
1-60	BC-718549	* DUST COVER ASSY AP-A150		
1-62	TP-718552	HINGE ASSY AP-A150		

AP-101 PARTS LIST

1-C901	EC-320548	⚠ * C CE V F 103Z 250AC		(U,E,B,S)
1-C902	EC-314688	⚠ * C CE V FZ 103P 125AC		(C,A)
1-C903	EC-316187	C EC V CUT AS1102M 16DC		
1-D901	ED-511097	⚠ * D SILICON 1N4001 50/1.0A		
1-D902	ED-511097	⚠ * D SILICON 1N4001 50/1.0A		
1-D903	ED-511097	⚠ * D SILICON 1N4001 50/1.0A		
1-D904	ED-511097	⚠ * D SILICON 1N4001 50/1.0A		
1-2	TP-718550	TONE ARM ASSY AP-A150		
1-20A	ES-718554	⚠ * SW MICRO AH-4700G		(SW1)(C,A)
1-20B	ES-718555	⚠ * SW MICRO AH-4700B		(SW1)(U,E,B,S)
1-36	ES-718551	SPEED SW ASSY AP-A150		(SW2)
1-44	BM-718340	⚠ * MOTOR BLK AP-M300	D0.1W	
1-53	MB-718346	BELT CR-WRT AP-M300		
1-56	EW-718568	CORD PHONO AP-A101		
1-58A	BT-718692	⚠ * TRANS POWER BM-8202UT		(U)
1-58B	BT-718561	⚠ * TRANS POWER BM-8202C	3VA	(C)
1-58C	BT-718559	⚠ * TRANS POWER BM-8202U	3VA	(A)
1-58D	BT-718562	⚠ * TRANS POWER BM-8202E	3VA	(E)
1-58E	BT-718563	⚠ * TRANS POWER BM-8202B	3VA	(B)
1-58F	BT-718993	⚠ * TRANS POWER BM-8202S		(S)
1-59A	EW-718564	⚠ * AC CORD KKP-10		(U,C,A)
1-59B	EW-718565	⚠ * AC CORD KKP-419C		(E)
1-59C	EW-718567	⚠ * AC CORD BS-6500 GTBS		(B)
1-59D	EW-718566	⚠ * AC CORD UP-501		(S)
1-60	BC-718549	* DUST COVER ASSY AP-A150		(U)
1-62	TP-718552	HINGE ASSY AP-A150		
1-100X	ES-718556	⚠ * SW SELECTOR AP-A101		(U)
1-F1	EF-339905	⚠ * FUSE SEMKO T 200MA 250V		(U,E,B,S)